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Considerations about *Thremma fontium* (Vallot, 1836) (Trichoptera: Uenoidae)

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In the Trichopterorum Catalogus (page 282), FISCHER (1970) noted the occurrence in France of *Thremma fontium* (VALLOT, 1836). This species, described by VALLOT as *Phryganea fontium*, was considered by ULMER (1955) as belonging to the genus *Thremma*, although with some reservations. This species is absent from the list of the French Trichoptera of BERLAND and MOSELY (1936), and it does not appear in the list of the European Trichoptera (BOTOSANEANU & MALICKY, 1978). Wishing to bring up to date the list of French Trichoptera, we have wanted to clarify the situation. We have considered that the best means was to go through the original description. VALLOT (1836) wrote:

“C’est avec des petits grains de sable et des petits cailloux réunis par des filets soyeux, que la larve se construit une demeure aquatique fixe et immobile, appliquée contre les pierres latérales et le fond des bassins de la fontaine de Jouvence. La forme irrégulière de ces petites habitations n’y ferait soupçonner aucun habitant. On les prendrait en effet pour de petits amas de graviers, déposés irrégulièrement et que l’on pourrait rapporter à des sortes de concrétions. Mais si on les détache de la pierre, on les trouve hémisphériques et renfermant soit une larve, soit une chrysalide, suivant l’époque à laquelle on fait l’observation. ... Voûte hémisphérique, ovale, formée de grains de sable, de petites pierres appliquées fortement à la surface des pierres immergées, et offrant de petites dimensions. Longueur de 5 à 10 millimètres (2 à 4 lignes); largeur de 5 millimètres (2 lignes). ... Aussi j’appellerai celle sur laquelle je viens de donner des détails, *Phryganea fontium*. ... M. Pictet a publié un Mémoire très-intéressant sur les larves de Némoures (c’est ainsi qu’il appelle les Phryganes); je n’y ai point trouvé l’espèce dont je parle.»

Proposed translation: « On the walls and the bottom of the basin of the Fountain of Youth, the larva builds a fixed and stationary aquatic dwelling with small grains of sand and with small pebbles joined together with silk thread. Because their shape is irregular, these small dwellings seem uninhabited. They look like small piles of gravel, irregularly distributed, which look like some kind of concretion. However, if we pick them up from the stone, they appear hemispheric containing either a larva or a pupa, according to the date [or season, in the life cycle] of the observation. ... Hemispherical vault, oval, formed with grains of sand, small pebbles firmly applied to the surface of the immersed stones, and with small dimensions: length from 5 to 10 millimeters (2 to 4 lines), width 5 millimeters (2 lines). ... Thus I will name this larva/case [in the French text “this” is feminine, such that Vallot is referring to either the

larva or the case!] about which I have given some details, *Phryganea fontium*. ... M. Pictet has published a very interesting thesis about the larvae of Némoures (Pictet’s name for caddisflies); but I do not find [in his thesis] the species described above.”

There is no drawing with this description.

There have been no other reports of this species since its original description. This is strange because the fontaine de Jouvence is located a few kilometers from Dijon (Department of Côte d’Or, France), a city with a University where there always have been hydrobiologists.

The fontaine de Jouvence is located on the course of the Suzon River about 15 kilometers from Dijon (see above) at an elevation of about 400 m. The water of the fontaine de Jouvence is very hard, forming accumulations of calcareous tufa. We know now that *Thremma* occurs in the crystalline Massifs and in soft water. Moreover, especially in France, *Thremma* always occurs above 500 m, often at higher elevations, in the Massif Central and in the Pyrénées (GIUDICELLI, 1971; MALICKY, 1983). Burgundy is clearly out of these areas. Thus it is impossible that the species described by VALLOT is a *Thremma*.

The description of the “fixed and stationary” case or retreat of the larva does not correspond to that of a *Thremma* case. VALLOT described “small piles of gravel” and cases or retreats made “with grains of sand, small pebbles.” This description does not fit that of the case of *Thremma*, which is always portable, except during pupation, and made of very small and similar-size mineral particles. Moreover the case of *Thremma* looks like a shell of *Ancylus*, not a pile of gravel. Thus, again, the description does not apply to a *Thremma*. On the other hand this description could apply to the saddle-case of a glossosomatid, an oval dome of sand and small pebbles [e.g., WARINGER & GRAF 1997, p.21, figs 13a, 13b, 14, cases of *Agapetus fuscipes* Curtis and *Synagapetus krawanyi* (ULMER)], or the fixed retreat of a psychomyiid (e.g. WIGGINS 1996, figs. 10.1E, 10.4F, retreats of *Lype* sp. and *Tinodes* sp.). Glossosomatids occur in springs, brooks, and small rivers; some species (for example *Synagapetus dubitans* MCLACHLAN) occur in calcareous streams (VAILLANT, 1967). Psychomyiids live in a wide variety of running waters and lentic habitats. If *Phryganea fontium* were a glossosomatid, we should not usually expect larvae in the “fixed” version of the case, only prepupae and pupae. If the species were a psychomyiid, we should not expect the shape to be “hemispherical.” Unfortunately, therefore, the description provided by VALLOT is insufficient to identify the family, *a fortiori* the genus or the species.

Considering the ecology and distribution of this species and the morphology of its case, the description of VALLOT (1836) indicated clearly that *Phryganea fontium* is not a *Thremma*. Possibly, it is a glossosomatid or a psychomyiid, but it is impossible to identify further. Thus we suggest that this species name be suppressed as a Nomen Dubium, in the list of Trichoptera and more especially from the *Trichoptera World Checklist* (MORSE, 2001).

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Books reviews

Atlas of plants and animals in Baltic Amber. By Wolfgang Weitschat and Wilfried Wichard. 256 pages, hardbound, ISBN 3-931516-94-6. Verlag Dr. Friedrich Pfeil, München, 2002.

This book is a translation by Maryann Onofrietto of the German version from 1998: see the review in *BRAUERIA* 26 on page 43. The English version is largely identical with the German one, with the recent literature and some colour photographs added. Some photographs were replaced by others. The book gives an excellent survey on the present state of knowledge of Amber fossils, with an instructive text and drawings and photographs of outstanding quality. It will not only delight everyone interested in amber and its fascinating inclusions but also serves as an authoritative reference book to the scientific community. Ma.

Biological Atlas of aquatic insects. By W. Wichard, W. Arens and G. Eisenbeis and a foreword by Vincent H. Resh. 339 pages, hardbound, ISBN 87-88757-60-9. Apollo Books, Stenstrup, Denmark 2002.

This book is another translation of an earlier book in German, *Atlas zur Biologie der Wasserinsekten*, published 1995 by Gustav Fischer Verlag, Stuttgart. It consists, in addition to the text, of about 900 scanning electron photographs of excellent quality. The text is presented in one-page chapters on particular topics such as *The wood-boring larvae of Asthenopus (Polymitarcidae)*, *Function of the pygidial glands of dytiscid beetles*, *Osmoregulatory adaptation of limnephilid larvae*, *Spiracular gills of the blackfly pupae (Simuliidae)*, and the like, with a selection of six photographs each on the opposite (right) page. More details may be found in the review of the German version in *BRAUERIA* 23 on page 4. Information on these topics, particularly on respiration, osmoregulation, hydrodynamics and feeding, were scattered in the literature if they existed at all; here they are collected together in one volume. Many schematic drawings are added. The book may be immediately used for teaching and as a reference source. The text is updated in some chapters according to the references of recent literature. But besides the scientific content of the book, studying the pictures alone is an aesthetic pleasure. Ma.



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